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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
IDAHO OPERATIONS OFFICE
950 West Bannock Street, Suite 900
Boise, Idaho 83702

February 27, 2015

Mary Kauffman
Environmental Coordinator
Caribou-Targhee National Forest
1405 Hollipark Dr.
Idaho Falls, Idaho 83401

Re: Draft Site-Specific Human Health Risk Assessment Report, Smoky Canyon Mine

Dear Ms. Kauffman:

EPA has completed its review of the Draft Site-Specific Human Health Risk Assessment Report, for the Smoky Canyon Mine which was received on December 16, 2014. EPA comments on this document were submitted via email on February 26, 2015. This represents a formal submittal for the Administrative Record.

If you have any questions regarding these comments please contact me at 208/378-5760.

Sincerely,

R Matthew Wilkening

R. Matthew Wilkening
Smoky Canyon Project Manager

cc: USFS, Admin. Record, Soda Spring Distr.
Trina Burgin, IDEQ-Pocatello, email only
Kelly Wright and Susan Hanson, Shoshone Bannock Tribes
Wayne Crowther, IDEQ-Pocatello, email only
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EPA Comments on the Draft

Site-Specific Human Health Risk Assessment Report, Smoky Canyon

General Comment: The Smoky Canyon Risk Assessment exposure factors, toxicity values, and resulting screening levels should be consistent with EPA RI/FS approaches taken at similar phosphate mines in the vicinity (Ballard, Enoch, and Henry). This work may have pre-dated those efforts which may explain why it differs from similar mines. Attached are key tables from the Ballard Mine RI/FS which summarize exposure factors and preliminary risk estimates which should serve as templates for Smoky Canyon.

Specific comments:

- Increase exposure frequency for the recreational hunter. Six days per year is too low for a Reasonable Maximum Exposure scenario (U.S. Environmental Protection Agency 1989). At a minimum, use 14 days per year. See attached Exposure Parameter table from Ballard Mine.

- Meat & produce ingestion rates should not be reduced for cooking losses. Cooking losses are from water & fat loss which are inappropriate for metal COPCs at Smoky Canyon. Metals of potential concern are generally bound to protein sulfhydryl groups which are not reduced by cooking.

- Use the MCL-derived reference dose for uranium (Stifelman 2008, attached) 0.0006 mg/kg*day to replace the IRIS RfD (.005 mg/kg*day).
http://water.epa.gov/action/advisories/drinking/upload/dwstandards2012.pdf

- Include radium-226+D as a COPC. Ra-226+D accounts for approximately 100 times the risk of U238+D at Ballard Mine, likely representative of other mining wastes in the vicinity.

- Use recently revised version of EPA ORNL Radionuclide PRG Calculator:

http://epa-prgs.ornl.gov/cgi-bin/radionuclides/rprg_search

- Use the recently revised CERCLA standard default exposure parameters for the residential scenario

http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/whatsnew/EFH_changes_table_memo_2014.pdf

- Exposure frequency for soil contact should be 350 days/year (Stalcup 2014) instead of the 184 days stated in the text. Snow cover does eliminate exposure to soil, which occurs indirectly indoors and year round, because a substantial fraction of indoor dust is composed of soil and a high proportion of time is spent indoors (Layton and Beamer 2009, National Research Council 2005).

References

Layton, D. W. and P. I. Beamer (2009). "Migration of contaminated soil and airborne particulates to indoor dust." Environmental Science and Technology 43(21): 8199-8205.
http://dx.doi.org/10.1021/es9003735

National Research Council. (2005). Superfund and Mining Megasites: Lessons from the Coeur d'Alene River Basin. Washington D.C., The National Academies Press.

http://www.epa.gov/superfund/accomp/coeur/pdfs/coeur.pdf

Stalcup, D. (2014). OSWER Directive 9200.1-120: Human Health Evaluation Manual, Supplemental Guidance:

Update of Standard Default Exposure Factors. Washington, DC, USEPA, Ofiice of Superfund Remediation and Technology Innovation: 7 pages, including tables.
http://www.epa.gov/oswer/riskassessment/pdf/superfund-hh-exposure/OSWER-Directive-9200-1-120ExposureFactors.pdf

Stifelman, M. (2008). Recommended toxicity value for uranium, noncancer endpoint for the Eastern Michaud Flats Site. Seattle, WA, U.S. EPA, Region 10: 3.

https://www.researchgate.net/publication/235591036_Recommended_toxicity_value_for_uranium_nonca ncer_endpoint_for_the_Eastern_Michaud_Flats_Site

U.S. Environmental Protection Agency (1989). Risk assessment guidance for superfund (RAGS); Volume I: Human health evaluation manual (HHEM), (Part A); Interim Final. Washington, DC, Office of Emergency and Remedial Response, U.S. Environmental Protection Agency. 1, Part A.

http://www.epa.gov/oswer/riskassessment/ragsa/